

## Association for Information Systems AIS Electronic Library (AISeL)

---

PACIS 2011 Proceedings

Pacific Asia Conference on Information Systems  
(PACIS)

---

9 July 2011

# Cyberloafing, Neutralization, And Organizational Citizenship Behavior

Rashimah Rajah

*National University of Singapore, rashimah@nus.edu.sg*

Vivien K. G. Lim

*National University of Singapore, bizlimv@nus.edu.sg*

ISBN: [978-1-86435-644-1]; Full paper

---

### Recommended Citation

Rajah, Rashimah and Lim, Vivien K. G., "Cyberloafing, Neutralization, And Organizational Citizenship Behavior" (2011). *PACIS 2011 Proceedings*. 152.  
<http://aisel.aisnet.org/pacis2011/152>

This material is brought to you by the Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in PACIS 2011 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# CYBERLOAFING, NEUTRALIZATION AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR

Rashimah Rajah, NUS Business School, National University of Singapore, Singapore,  
rashimah@nus.edu.sg

Vivien K. G. Lim, NUS Business School, National University of Singapore, Singapore,  
bizlimv@nus.edu.sg

## Abstract

*Having and providing Internet access at the workplace not only puts an organization at an advantage; the Internet has become so ingrained in organizational functions that it becomes a necessity. However, recent research has shown that companies suffer significant losses in terms of cost, time and productivity, due to employees using the firm's Internet access for personal matters i.e. cyberloafing. Using perspectives on compensatory behaviors, we proposed that individuals engage in either neutralization or organizational citizenship behavior (OCB) as compensation for cyberloafing at work. Our findings, however, suggest that individuals who cyberloaf tend to engage in both cognitive (neutralization) and behavioral (OCB) compensatory techniques to justify their cyberloafing behavior.*

*Keywords: Cyberloafing, Neutralization, Organizational Citizenship Behavior*

# 1 INTRODUCTION

Having and providing Internet access at the workplace not only puts an organization at an advantage; the Internet has become so ingrained in organizational functions that it becomes a necessity (Bharadwaj, 2000). In the context of today's workplace, the Internet is used as a means to stay updated with current affairs, conduct research on products or ideas, and to send and receive e-mails with clients (Yellowlees & Marks, 2007). Access to these websites through the Internet, however, is also coupled with access to other non-job related sites, freely available for employees to browse or abuse (Claybaugh & Nazareth, 2009; Davis, Flett, & Besser, 2002). In particular, an increasing number of employees are engaging in non-work related browsing of websites or sending and receiving personal e-mails, using the Internet access at work (Lim, 2002).

According to recent studies, human resource professionals estimated that employees waste approximately one hour engaging in non-work related activities using the Internet (Bloxx, 2008). Employees, however, have admitted to wasting around two hours per day. In the UK, the costs of wastage due to personal Internet usage have been estimated to be £38,000 per year for an organization, and approximately £11.2 billion per year for the UK economy (Bloxx, 2008). A study by SurveilStar.com showed that 30% of the companies surveyed were losing more than a day's work per week from such cyber activities. Several organizations attempt to counter this problem by blocking URLs for pornography content, game sites, social networking sites, entertainment sites, shopping or auction sites, and sports sites (SurveilStar.com, 2008). Also, to counter this problem of Internet abuse, companies are increasingly using Internet surveillance programs and put in place explicit policies regarding usage of the Internet (Bequai, 1998).

# 2 OBJECTIVES

However, are these behaviors always necessarily harmful to the organization? While engaging in such acts, termed as **cyberloafing**, may have costly repercussions to the company, this study seeks to find out if these behaviors can yield benefits for the company. We ground our research in theories of neutralization and compensatory behavior to explore the mechanisms that link cyberloafing to positive outcomes. In this study, the outcome of interest is organizational citizenship behavior (OCB). We are interested in finding out if individuals who cyberloaf perform extra-role behaviors at work such as helping fellow colleagues or conserving the company's resources (Moorman & Blakely, 1995).

OCB is the outcome of interest for two reasons. First, there has been research linking workplace deviance to OCB. According to the literature on deviance, individuals who engage in counterproductive work behavior (CWB) and feel guilty about it tend to engage in OCB as a means to "compensate" for what they have done and to assuage their guilt (Spector & Fox, 2010). Second, neutralization techniques have also been positively associated with cyberloafing. Studies have shown that employees who cyberloaf tend to justify their deviant behavior through neutralization techniques such as denial of harm, and normalization i.e. "everyone is doing it" (Lim, 2002; Lim & Teo, 2005). We posit that engaging in neutralization techniques is a cognitive form of compensatory behavior where individuals "compensate" for their cyberloafing acts by rationalizing in their minds why they engage in such behaviors in the first place. Because neutralization is one of two forms of compensatory behavior, we predict that individuals who cyberloaf either invoke cognitive strategies (neutralization techniques) *or* engage in behavioral strategies in the form of OCB as means to make up for their counterproductive behavior of cyberloafing.

As such, the objectives of this study are two-fold. First, we seek to provide a balanced view of the effects of cyberloafing by moving away from the dark side of this behavior and exploring the possibility that it can lead to positive outcomes. Second, we attempt to expand the literature on neutralization theory and research in compensatory techniques by exploring their effects in contemporary organizational settings. Answering Johns' (2006) call for putting *context* at the forefront of organizational research, we apply the

theoretical frameworks of neutralization and compensatory behaviors in the context of employees' (mis)use of the Internet at the workplace.

### 3 LITERATURE REVIEW

Cyberloafing refers to the act of employees using their companies' Internet access for personal purposes during work hours (Lim, 2002; Lim & Teo, 2005). Examples of cyberloafing include browsing non-job related websites (e.g. social networking, sports, news and entertainment), checking and sending personal e-mails and other activities such as online shopping and online gaming. Cyberloafing is a common phenomenon in today's organizations, as firms increasingly have high-speed access to the Internet that is necessary for research, execution and communication. Not only is Internet more available in the workplace, there are also few restrictions as to which websites employees can surf. This is because the vast information that can be found on the world wide web is needed for work, and for companies to remain updated and competitive (Lim & Teo, 2005). As such, it is considerably easier for employees to abuse this relatively-free access to the Internet for their own personal matters during work hours.

Cyberloafing has been conceptualized as a form of workplace deviance (Lim, 2002). According to Robinson and Bennett (1995), workplace deviance refers to voluntary behavior that violates significant organizational norms, and in so doing, threatens the well-being of the organization or its members, or both. Examples of deviant behaviors at the workplace include littering the work environment, coming in late without permission, and falsifying receipts in order to get more reimbursement from the company. Recent research has shown, however, that cyberloafing can serve as a rest and recovery mechanism – a means that allows employees to recover from the stress of work.

For example, Lim and Chen (2009) found that taking time off work to browse websites for personal purposes helped to refresh and revitalize employees' minds, which in turn may help to increase productivity. Cyberloafing was akin to taking a traditional physical break from work such as walking to the pantry to get coffee, or simply taking a walk outside. In a similar vein, Dijksterhuis, Bos, Nordgren and van Baaren (2006) found that distractions or breaks in attention enable the unconscious mind to handle large amounts of information and to integrate them into an evaluative summary judgment, unavailable in conscious deliberation.

Yet, when employees cyberloaf at work, such as having other non-work related websites open in other browsers, they are essentially juggling multiple mental tasks at the same time. In a review of studies on the impact of different media technologies on cognitive capabilities, Greenfield (2009) found that individuals who engaged in multi-tasking performed worse in the tasks assigned. For example, participants who were asked to understand CNN news stories recalled significantly fewer facts from the stories shown earlier when they were in the multi-tasking condition (Bergen, Grimes, & Potter, 2005). In an experimental study with a university setting, half of the students in a classroom were allowed to use Internet-connected laptops during a lecture, while the other half had to keep their computers shut (Hembrooke & Gay, 2003). The study found that students who browsed the Internet performed significantly worse on a subsequent test relating to the lecture's content.

Similarly, processing distracting information at work through browsing websites, visiting social networking sites, and receiving and sending personal e-mails exacts a cognitive cost, which depletes cognitive resources necessary to perform tasks at work (Greenfield, 2009). Clearly, cyberloafing is costly to the organization as the company's Internet resources are misused and employees' productivity levels are negatively affected. Thus, it is important to identify the antecedents and outcomes of such behavior, as we seek to improve workers' performance and productivity by altering factors that affect cyberloafing.

At the organizational level, organizational justice has been found to be an antecedent of cyberloafing; lower organizational justice has a significant impact on cyberloafing (Blau, Yang, & Ward-Cook, 2006; Lim, 2002). Employees who received unfair treatment attempted to "pay back" by using company

resources (i.e. the Internet) for personal purposes instead of for work. Such mechanisms are prevalent in works relating to workplace deviance or counterproductive work behavior (CWB) as well, where employees vent out their frustrations with the injustice at the workplace by engaging in deviant acts (Fox, Spector, & Miles, 2001; Jones, 2009; Kwak, 2006).

At the individual level, other than addiction to the Internet (Young, 1998; 2004), cyberloafing behavior has been explained by neutralization techniques engaged by workers to justify their counterproductive work behavior. Lim (2002) used the metaphor of the ledger, an extension of neutralization theory, to explain how individuals rationalize their deviant actions to the point where such behaviors now become acceptable in their minds. Neutralization occurs when guilt resulting from committing delinquent acts is reduced through a form of *a priori* rationalization (Sykes & Matza, 1957). There are different types of neutralization which include denial of harm (minimization), denial of victim, denial of responsibility, and appeal to norms (normalization) (Mitchell and Dodder, 1983). In the context of this study, we will be examining two types of neutralization, namely, minimization and normalization. These two neutralization techniques were chosen because they have been shown in past research to have a significant impact on cyberloafing (Lim & Teo, 2005).

Although it appears that CWB has only detrimental effects to the company where workers purposefully become less productive, and where the organization's resources are misused or misappropriated, several scholars have noted the parallel between workplace deviance and organizational citizenship behavior (OCB) (Miles, Borman, Spector, & Fox, 2002; Spector & Fox, 2002; 2010). OCB refers to the act of engaging in behaviors that is beyond one's job scope and role requirements (Organ, 1988). Examples of OCB include passing information to fellow colleagues, going out of one's way to help a co-worker, and adhering to the organization's norms and rules (Moore & Blakely, 1995).

Studies have generally found that CWB is negatively related to OCB (Bukhari & Ali, 2009; Dalal, 2005). This is because CWB is generally associated with negative affect, while OCB is related to positive affect (Spector & Fox, 2002). However, recent research suggests that OCB can be related to negative affect as well. Scholars propose that individuals who are experiencing negative affect may be motivated to alleviate this mood state; OCB helps alleviate them from negative mood as they feel more positive about themselves when helping others (Cialdini & Fultz, 1990; Cialdini & Kendrick, 1976; Carlson & Miller, 1987). Ilies, Fulmer, Spitzmuller and Johnson (2009) also found that individuals with negative affect tend to perform OCB to alleviate that negative emotion. Therefore, CWB like cyberloafing is related to OCB through the following mechanism: Individuals who engage in CWB tend to be in a negative mood state. Simultaneously, to relieve themselves from that negative affect, they perform OCB to feel better about themselves. Therefore, while we concur that CWB may not necessarily *lead* to OCB, the common factor of negative affect that individuals may experience means that individuals who cyberloaf are also more likely to simultaneously engage in OCB.

Another mechanism through which CWB is related to OCB is guilt. This is because engaging in CWB like cyberloafing can invoke guilt, and in turn, the individuals may seek to alleviate this guilt through engaging in OCB (Perrewe & Zellars, 1999). Because of the guilt individuals feel after cyberloafing at work, they may be compelled to remedy the situation by engaging in extra-role behaviors such as OCB. However, such a proposition holds when employees believe that their act of deviance was unjustified. For example, when workers are unable to find reasons for displaying counterproductive work behavior, such as wasting time on non-work related websites even though organizational justice is high, they tend to compensate for such unjustified behavior by performing OCB, such as assisting their co-workers at work (Spector & Fox, 2010). However, when cyberloafers are able to *justify* their behaviors through neutralization techniques, and when this feeling of guilt is no longer present, the literature suggests that they will be less likely to engage in OCB (Spector & Fox, 2010).

## 4 HYPOTHESES

Extending the works on neutralization and cyberloafing, we propose that employees engage in cognitive compensatory techniques such as minimization of harm, and normalization, to justify this deviant behavior (Festinger, 1957; Fointiat, 1998). When guilt associated with cyberloafing is mitigated or alleviated, individuals who cyberloaf will be less compelled to engage in organizational citizenship behaviors to make up for their cyberloafing activities. Thus, we put forth the following hypotheses:

*H1: Cyberloafing is positively related to OCB-I and OCB-O.*

*H2a: Neutralization techniques (minimization and normalization) moderate the relationship between cyberloafing and OCB-I such that the relationship becomes weaker when neutralization is high.*

*H2b: Neutralization techniques (minimization and normalization) moderate the relationship between cyberloafing and OCB-O such that the relationship becomes weaker when neutralization is high.*

Figure 1 depicts the relationships among variables in our study.

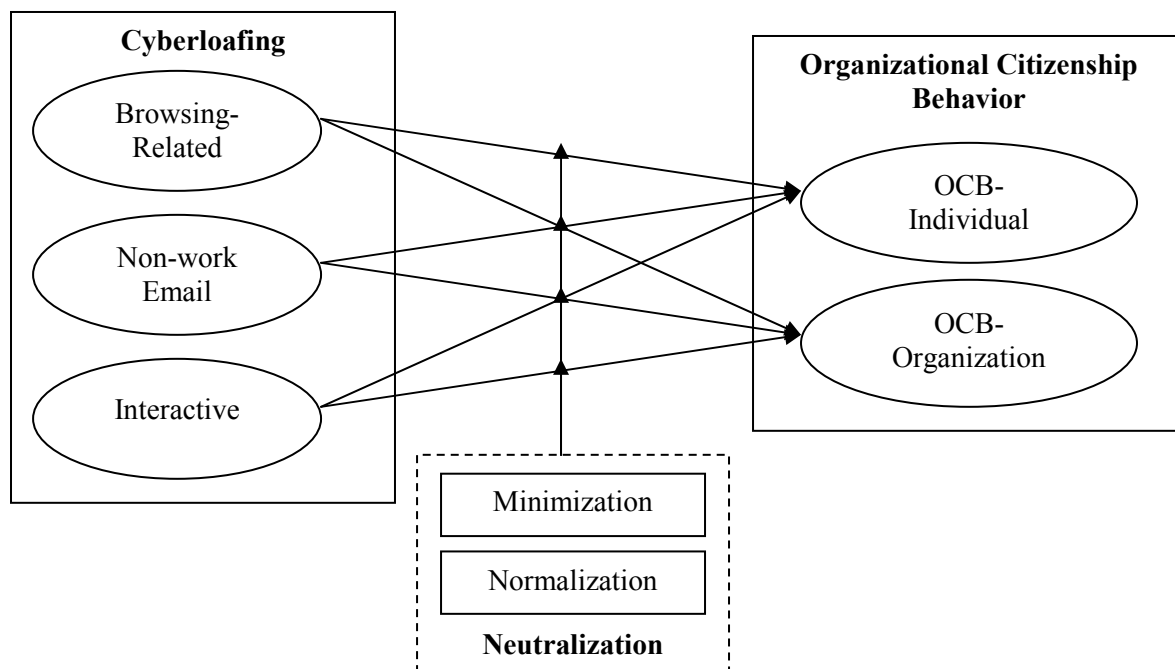


Figure 1. Research model illustrating the relationships between the variables.

Blanchard and Henle (2008) identified two major different types of cyberloafing - minor cyberloafing (e.g. sending and receiving personal e-mail at work) and serious cyberloafing (e.g. online gambling, surfing adult oriented web sites). While these scholars provide a useful framework, we adopted Blau et al.'s (2006) classification of cyberloafing instead, as it is more comprehensive. Using Blau and colleagues' (2006) categorization of cyberloafing activities into browsing-related, non-work related email, and interactive cyberloafing, we propose to test the research model above, taking into account the different types of neutralization techniques (minimization and normalization) and OCB (OCB-individual and OCB-organization).

## 5 METHOD: PILOT STUDY

### 5.1 Sample and Instrument

Before proceeding with the main study, we conducted a pilot study to test the proposed cyberloafing instrument, and to examine if the items indeed fall into the three dimensions of interactive, e-mail, and browsing-related cyberloafing as per our research model. To test this, we distributed survey questionnaires that comprised only the cyberloafing items. The survey questionnaires were administered to 114 undergraduates studying at a large tertiary institution in Singapore. Respondents were then given course credit for participation in the pilot study. 62% of the subjects were females, and the mean age was 22 years ( $SD=1.75$ ).

A 20-item cyberloafing scale developed by Lim (2002) was used to assess cyberloafing. Items were scored from 1 (Never) to 6 (Constantly). The institution where this study was conducted is not known for blocking external websites other than those containing pornographic or explicit content. Because the item measuring respondents' tendency to visit such websites previously had low base rates due to social desirability concerns (Lim, 2002; Lim & Teo, 2005), it was not included in this study.

Respondents were asked to put themselves in the situation whereby they were in a class or lecture, and were told to respond to how often they engaged in cyberloafing while they were in class. Although we note that the student sample is not entirely representative of the working population, this method of conducting the pilot study was carried out for the following reason. We argue that the classroom setting which requires students to pay attention and focus on academic work is analogous to the work context, where employees are supposed to be paying attention to work rather than engage in non-work related activities during work hours. Cyberloafing in class, therefore, has comparable similarities to cyberloafing at work.

### 5.2 Factor Analysis

The initial cyberloafing instrument consisted of 20 items. We conducted factor analysis with Varimax rotation, and after removing items which loaded on more than one factor, we were left with 16 items, which loaded appropriately in line with Blau et al.'s (2006) categorization of cyberloafing into three dimensions – browsing-related, non-work e-mail, and interactive cyberloafing. Three items loaded on one factor (browsing-related), three items loaded on another factor (e-mail) and the rest loaded on another factor (interactive).

These items have content validity as well, because they were cross-checked with Blau et al.'s (2006) initial definitions of the three dimensions, and the items had content similarity with the definitions. For example, the items "Browsing general news sites" and "Browsing sports-related websites" loaded on the browsing-related factor. The items "Visiting social networking sites e.g. Facebook, Friendster and MySpace" and "Playing online games" loaded on the interactive factor, and fitted with Blau et al.'s (2006) categorization as these activities involve communication, engagement and participation from other individuals, rendering the term "interactive". The three items related to checking, sending and receiving personal e-mails also corresponded to the e-mail dimension of cyberloafing. Therefore, the 16-item cyberloafing measure was used in the main study to test our hypotheses.

## 6 METHOD: MAIN STUDY

### 6.1 Sample

Survey questionnaires were completed by 120 working adults, who were full-time employees and work for an organization with Internet access, at the point of filling in the survey. Females comprised 59% of the respondents. The mean age was 28 years ( $SD=9.83$ ).

### 6.2 Measures

#### 6.2.1 Cyberloafing

After conducting factor analysis for the initial instrument, a final 16-item cyberloafing scale was used for the main study. The scale tapped on the different dimensions of cyberloafing mentioned earlier (interactive, e-mail, and browsing-related). Sample items include “Browsing general news sites”, “Visiting social networking sites (e.g. Facebook, Friendster, MySpace)”, and “Sending non-work related e-mail.”

It is important to examine not only the different types of cyberloafing activities that employees engage in, but also, how frequently they do so. Subjects responded how often they engaged in each activity in the list by indicating on a scale from 1 (Never) to 6 (Constantly). In view of the fact that some companies block specific websites and that individuals will not have access to them, a “Not Applicable” (N/A) option was also included in the scale. The composite score was calculated by averaging all the 16 items, taking into account the N/A responses such that scores are not necessarily lower when the organization blocks several sites. The internal reliabilities for browsing-related, non-work e-mail, and interactive cyberloafing were .60, .92, and .87 respectively. Other than browsing-related, whose slightly lower Cronbach’s alpha is due to the small number of items, the other internal reliabilities surpassed acceptable research standards.

#### 6.2.2 Organizational Citizenship Behavior

Respondents reported the types of OCB they engaged in on a 14-item OCB scale (Moorman & Blakely, 1995). Seven of these items measured OCB-individual (OCB-I), which involve helping or displaying extra-role behavior to other employees or co-workers in the company. Items measuring OCB-I include “Helping others who have been absent”, “Assisting the supervisor with his/her work when not asked”, and “Going out of the way to help new employees”. The other seven items measured OCB-organization (OCB-O), which refers to extra-role behaviors that benefit the organization. Example items are “Giving advance notice when unable to come to work”, “Conserving and protecting organizational property”, and “Taking undeserved work breaks (reverse coded)”.

Respondents indicated the frequency of engaging in such acts by using a scale from 1 (Never) to 6 (Every time). By having an even-numbered scale, we minimize response bias as we eliminated the middle point of “Sometimes”. To this end, respondents were compelled to take a stand on whether they tended to engage in such acts frequently, or if they do so occasionally. The Cronbach’s alpha for OCB-I was .82, while that for OCB-O was .61. One reason for the slightly low figure for OCB-O could be attributed to the fact that three out of seven items in the scale had to be reverse-coded, which may affect how subjects responded to the scale. Nonetheless, because the OCB-O scale adopted for this study is widely used and has been previously validated, we proceeded to retain the OCB-O scale in its entirety.

Although instances of cyberloafing and OCB were self-reported which may lead to method variance, a study by Kelloway, Loughlin, Barling, and Nault (2002) that found such method variance for measures of CWB and OCB indicated that the presence of such an influence does not compromise the substantive interpretation of these scales. Besides, such measures are best provided by the employee or the individual because supervisors’ perceptions of cyberloafing and OCB may not be accurate, especially when these behaviors tend to be covert in nature. While we acknowledge the possibility of method variance in our



measures, due to the fact that these two constructs have been found to be distinct from each other, and that employees themselves are the best sources of information for behaviors that they engaged in covertly, we argue that there is scientific support to our methodology (Kelloway et al., 2002).

### 6.2.3 Neutralization

To measure neutralization, we included scales on minimization (denial of harm) and normalization (appealing to norms i.e. “everyone else is doing it”). Logically, these two neutralization techniques are most prominent in the context of cyberloafing because on one hand, there is harm done to the company in terms of productivity costs. On the other hand, as studies have previously shown, cyberloafing is perceived to be a common and normal thing to do in organizations. It is easy to see how other forms of neutralization are not relevant in this context. For example, it is not possible to deny responsibility as employees voluntarily engage in such acts, and are not instructed to do so by their superiors. There is also no tangible “victim” in the case of cyberloafing – different from contexts of stealing from someone else or hurting someone physically.

#### 6.2.3.1 Minimization

The scale used by Aquino and Becker (2005) for their study on neutralization in lying behavior was adapted for this study. There were four items measuring minimization, which included “It is a harmless act that will not hurt any other party” and “Such activities do not cause anyone harm”. The inter-item reliability score was .82.

#### 6.2.3.2 Normalization

Normalization items were also adapted from Aquino and Becker’s (2005) scale. There were six items measuring normalization including “I was following a standard practice/norm in the company” and “Other people engage in such activities all the time”. The inter-item reliability score was .82.

## 7 RESULTS

Table 1 shows the means, standard deviations, and correlations of the measured constructs, including their respective internal reliabilities. Cronbach’s alphas exceeded acceptable research standards, which renders more confidence in our findings.

<i>Variables</i>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>1 Age</b>	27.8	9.83										
<b>2 Gender</b>	1.59	0.49	-.27**									
<b>3 Income</b>	3.52	1.57	.12	-.04								
<b>4 Browsing-Related</b>	1.63	1.06	-.01	-.24*	.02	(.60)						
<b>5 Non-work E-mail</b>	2.82	1.45	-.21*	.17	.09	.36*	(.92)					
<b>6 Interactive</b>	1.32	1.00	-.31**	.15	-.20*	.47**	.50**	(.87)				
<b>7 Minimization</b>	3.43	0.86	-.18*	.12	-.06	.20*	.46**	.33**	(.82)			
<b>8 Normalization</b>	3.19	0.86	-.17	.04	-.03	.20*	.17	.20*	.51**	(.82)		
<b>9 OCB-I</b>	3.68	0.80	.17	-.04	.22*	-.01	.01	.00	.05	.18*	(.82)	
<b>10 OCB-O</b>	4.00	0.64	.19*	.03	.07	.00	.08	-.15	-.12	-.05	.25**	(.61)

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

Figures in parentheses denote internal reliabilities.

*Table 1. Means, Standard Deviations, and Correlations*

Regression analyses were conducted to test for the main effects of the different types of cyberloafing on OCB-I and OCB-O. Age, gender and income were controlled for in these regressions. This is in line with previous research, which found these factors to affect the extent of cyberloafing. For example, Lim and Chen (2009) found that men were more likely to cyberloaf than women, and Ugrin and Pearson (2007) found that younger individuals were more prone to cyberloaf. Although income was not found to have an impact on empirical factors according to the study by Akman and Mishra (2010), research findings that employees tend to cyberloaf more when they feel overworked and underpaid (Lim & Teo, 2005) may result in individual income being a confounding factor. As such, we controlled for income as well. Table 2 shows our results for Hypothesis 1.

<i>Variables</i>	<b>OCB- Individual</b>		<b>OCB-Organization</b>	
	<i>B</i> <i>Step 1</i>	$\beta$ <i>Step 2</i>	$\beta$ <i>Step 1</i>	$\beta$ <i>Step 2</i>
<b>Age</b>	.142	.160	.202*	.176
<b>Gender</b>	.053	.034	.099	.122
<b>Income</b>	.205*	.217*	.038	-.036
<b>Browsing-Related</b>		-.047		.090
<b>Non-work E-mail</b>		.000		.239*
<b>Interactive</b>		.081		-.313*
<b><i>R</i><sup>2</sup></b>	.066	.070	.043	.106
<b><math>\Delta R^2</math></b>		.004		.063*

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

Table 2. Regression Analyses of Cyberloafing and OCB

Regression analyses suggest that other than the positive association between non-work e-mail and OCB-O, ( $\beta=.239$ ,  $p<.05$ ), none of the other relationships in Hypothesis 1 was supported. To test for interaction effects as posited in Hypothesis 2, the relevant variables were centered, and hierarchical linear regressions were conducted. Control variables were added in the first step the independent variables were added in the second step, the moderator variables were added in the third step, and the product term of the relevant centered variables were added in the fourth and final step. Table 3 shows the results from the moderated regression analyses. From these regression analyses, 6 interaction effects were significant, and the corresponding interaction plots are illustrated in Figures 1 to 6.

<i>Variables</i>	<b>OCB- Individual</b>			<b>OCB-Organization</b>		
	<i>B</i> <i>Step 1</i>	$\beta$ <i>Step 2</i>	$\beta$ <i>Step 3</i>	$\beta$ <i>Step 1</i>	$\beta$ <i>Step 2</i>	$\beta$ <i>Step 3</i>
<b>Age</b>	.106	.158	.140	.222*	.192*	.163
<b>Gender</b>	.061	.042	.120	.093	.121	.129
<b>Income</b>	.198*	.208*	.215**	.045	-.044	-.052
<b>Browsing-Related</b>		-.080	-.040		.083	.083
<b>Non-work E-mail</b>		.019	.094		.327**	.388
<b>Interactive</b>		.062	.013		-.311**	-.295
<b>Minimization</b>		-.063	-.080		-.222*	.227

<b>Normalization</b>		.269**	.210*		.090	.066
<b>Browse x Mini</b>			-.343*			-.287*
<b>Browse x Norm</b>			.433**			.383**
<b>E-mail x Mini</b>			.063			.067
<b>E-mail x Norm</b>			.196			.294*
<b>Interactive x Mini</b>			-.117			.197
<b>Interactive x Norm</b>			.048			-.337*
<b>R<sup>2</sup></b>	.054	.114	.255	.051	.143	.238
<b><math>\Delta R^2</math></b>		.060	.051**		.091*	.096*

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

Table 3. Moderated Regression Analyses of Cyberloafing, Neutralization, and OCB

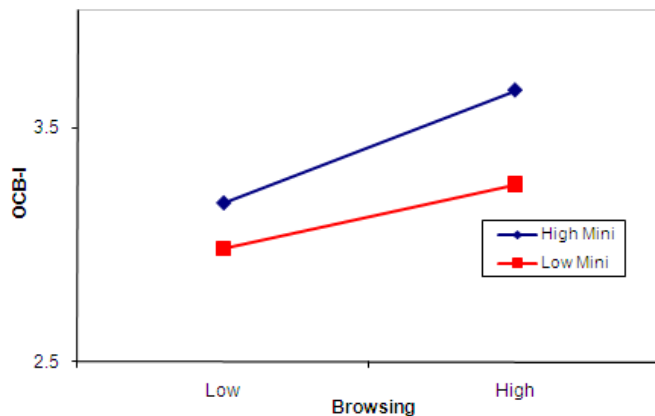


Figure 1. Interaction plot: Browsing against OCB-I – Minimization as moderator

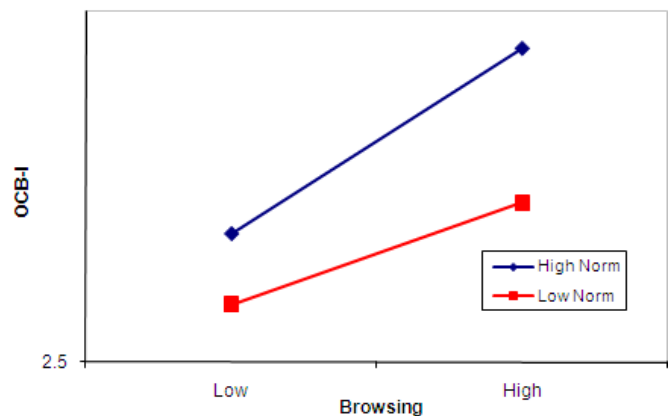


Figure 2. Interaction plot: Browsing against OCB-I – Normalization as moderator

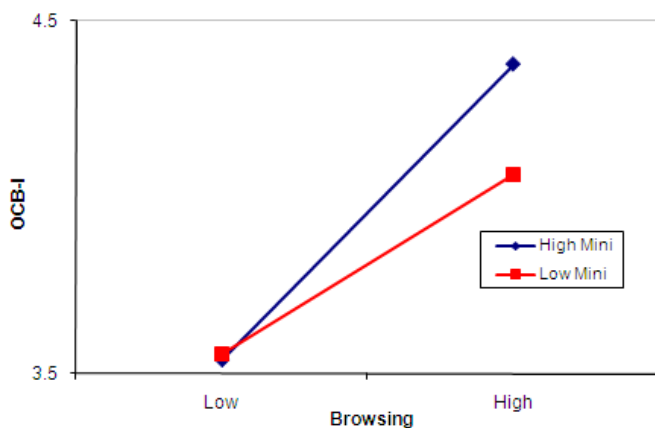


Figure 3. Interaction plot: Browsing against OCB-O – Minimization as moderator

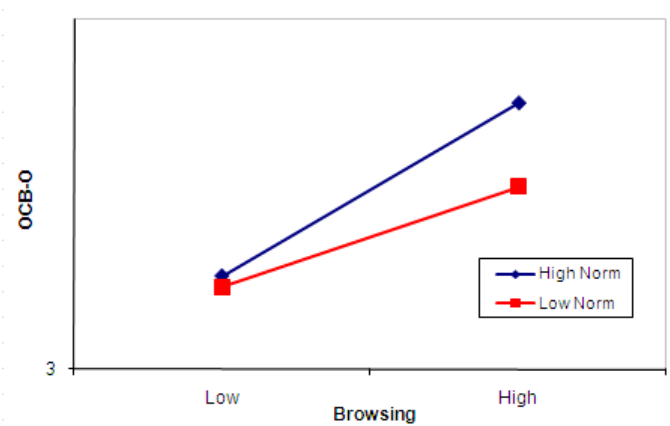


Figure 4. Interaction plot: Browsing against OCB-O – Normalization as moderator

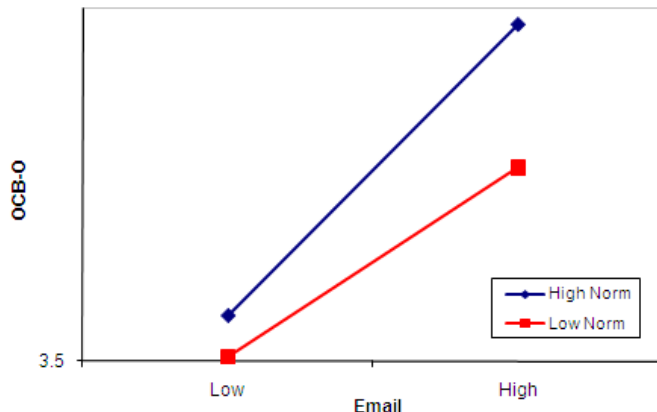


Figure 5. Interaction plot: Non-work E-mail against OCB-O – Normalization as moderator

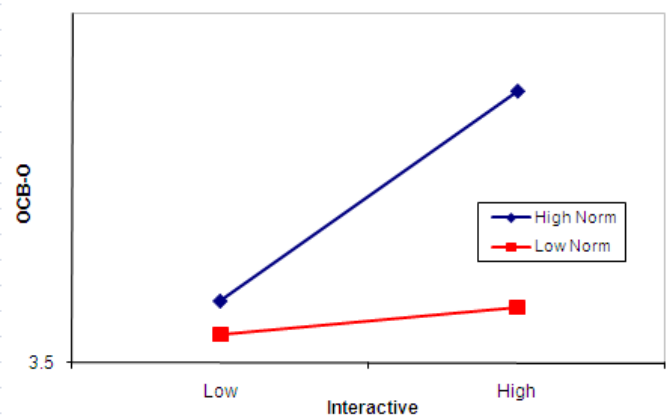


Figure 6. Interaction plot: Interactive against OCB-O – Normalization as moderator

None of the interaction effects was in the direction predicted. Instead, under conditions of high cyberloafing activity, individuals who engaged in more neutralization techniques (minimization and normalization) also engaged in more OCB.

## 8 DISCUSSION

Hypothesis 1 was partially supported. Our findings did not suggest that cyberloafing was positively associated with OCB-I and OCB-O, with the exception of e-mail and OCB-O. A plausible explanation is that personal e-mail is clearly not related to work (in comparison to browsing and interactive cyberloafing, which some could still argue to be part of research done for work). As such, individuals may feel more compelled to compensate the organization for their loafing behavior.

It is interesting to note in this study that there was only one negative relationship between cyberloafing and OCB which was statistically significant, namely that between interactive and OCB-I. The other relationships such as browsing and OCB-I and OCB-O, e-mail and OCB-I, and interactive and OCB-O, were not negative. This is contrary to previous research done on CWB, where there is usually a moderately negative relationship between the two constructs. One reason for this is that cyberloafing may bring about more positive outcomes to the organization compared to other forms of CWB such as losing temper at work or property theft.

Another noteworthy finding is that instead of OCB decreasing with higher neutralization, the interaction effect was opposite to our initial prediction. The higher the neutralization, the more the employees who cyberloaf tend to engage in OCB. This points to the possibility of simultaneous manifestations of compensatory behavior after cyberloafing. Neutralization techniques such as denial of harm to the company, or appeal to norms represent *cognitive* compensatory behaviors, where individuals who cyberloaf rationalize their actions in their mind, possibly to assuage guilt from misusing the company's Internet access for personal reasons.

Findings from this study suggest that such cognitive compensatory behaviors may not sufficiently reduce the dissonance from voluntarily reducing one's productivity by using the organization's Internet access for non-work related purposes. Employees seem to simultaneously engage in OCB as a *behavioral* form of compensatory act. It appears that both cognitive and behavioral manifestations of compensatory techniques operate in tandem in our context. A plausible explanation is that individuals cannot distinguish one type of compensatory technique from the other, and tend to engage in both to make amends for their deviant behavior of cyberloafing at work.

## 9 LIMITATIONS

Several limitations are inherent in our study. First, like many cross-sectional studies, causality cannot be inferred, and cross-cultural studies need to be conducted to counter the lack of generalizability. Second, one of our variables of interest, OCB-O, had inter-item reliability that was quite low (0.61). Although we retained the full scale because it has been well-validated and established in literature, in the future, attempts should be made at rewording the items such that they follow one direction (e.g. all items are positively worded), to increase reliability of this measure.

Nonetheless our study possesses strengths in that participants completed a pen-and-paper survey, which minimizes respondent bias as in previous studies where subjects filled out an online survey (Lim, 2002). It was contended that subjects who respond to online advertisements and fill out online surveys are self-selected as they tend to be more Internet-savvy, and are hence more prone to being cyberloafers in the first place. While such a methodology was appropriate in Lim's (2002) study as it was an initial work on this phenomenon and studying that specific sample was necessary, this study overcomes the previous critique of self-selection through a slight change in methodology. As well, this study makes a theoretical contribution to research on cyberloafing by extending the role of neutralization in facilitating cyberloafing activities at work. Our findings show that individuals who cyberloaf actually invoke not only cognitive neutralization techniques but also behavioral compensatory strategies (OCB).

## 10 CONCLUSION

To the best of our knowledge, this study presents an initial attempt at examining the relationship between cyberloafing and OCB. In a time where technology and the Internet are so ingrained in our workplace today, this piece of research studying the outcomes of cyberloafing is not only timely, but also crucial in helping to further the understanding of underlying psychological processes individuals engage in when cyberloafing (Johns, 2006).

This research suggests that increasing levels of cyberloafing lead to increasing levels of OCB, and it therefore should be studied as a positive construct instead of being defined as a type of workplace deviance. While Lim and colleagues (Lim, 2002; Lim, Teo, & Loo, 2002; Lim & Teo, 2006) conceptualized cyberloafing in their initial efforts to examine this phenomenon, in her more recent work (e.g., Lim & Chen, 2009), Lim did find that cyberloafing can indeed lead to gain in work. In line with Lim and Chen (2009), our findings showed that cyberloafing is related to a positive outcome, OCB, and managers and practitioners may wish to consider this while formulating the organization's Internet policies. Although cyberloafing may lead to wastage of resources and may appear to be unproductive, we argue that there may be a flipside to the coin, where it can be related to positive outcomes that benefit the firm as well.

Future directions for research include teasing apart the different durations of cyberloafing which can render it to be a productive behavior or an unproductive one. For example, a Thurnstone scale is being developed to measure the severity of Internet abuse which attempts to distinguish between non-serious offences of browsing non-work related websites for short durations of time and more serious cases of pathological abuse like viewing pornographic material and cyber-bullying (Claybaugh & Nazareth, 2009). It is perhaps also useful to conduct research in an attempt to more concretely distinguish what constitutes as a revitalizing mechanism to continue being productive at work, and a chronic condition of using the company's Internet access to engage in counterproductive behaviors. On a similar note, it may also be constructive to study the different levels of cyberloafing (minor vs. major, short spurts over time vs. long durations) and examine if the aforementioned relationships between cyberloafing, OCB, and neutralization techniques still hold.

## References

- Akman, I., & Mishra, A. (2010). Gender, age and income differences in Internet usage among employees in organizations. *Computers in Human Behavior*, 26, 482-490.
- Aquino, K., & Becker, T. (2005). Lying in negotiations: How individual and situational factors influence the use of neutralization strategies. *Journal of Organizational Behavior*, 26, 661-679.
- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly*, 24, 169-196.
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, 85, 349-360.
- Bequai, A. (1998). Employee abuses in cyberspace: Management's legal quagmire. *Computers & Security*, 17, 667-670.
- Bergen, L., Grimes, T., & Potter, D. (2005). How attention partitions itself during simultaneous message presentations. *Human Communications Research*, 31, 311-336.
- Blanchard, A. L., & Henle, C. A. (2008). Correlates of different forms of cyberloafing: The role of norms and external locus of control. *Computers in Human Behavior*, 24, 1067-1084.
- Blau, G., Yang, Y., & Ward-Cook, K. (2006). Testing a measure of cyberloafing. *Journal of Allied Health*, 35, 9-17.
- Bloxx. (2008). *Productivity, Internet abuse, and how to improve one by eliminating the other*. Available from: [http://www.bloxx.com/assets/downloads/bloxx\\_whitepaper\\_productivity.pdf](http://www.bloxx.com/assets/downloads/bloxx_whitepaper_productivity.pdf)
- Bukhari, Z. U., & Ali, U. (2009). Relationship between organizational citizenship behavior and counterproductive work behavior in the geographical context of Pakistan. *International Journal of Business and Management*, 4, 85-92.
- Cialdini, R. B., & Fultz, J. (1990). Interpreting the negative mood-helping literature via "mega"-analysis: A contrary view. *Psychological Bulletin*, 107, 210-214.
- Cialdini, R. B., & Kendrick, D. T. (1976). Altruism as hedonism: A social development perspective on the relationship of negative mood state and helping. *Journal of Personality and Social Psychology*, 34, 907-914.
- Claybaugh, C. C., & Nazareth, D. L. (2009). Measuring severity of Internet abuse in the workplace: Creation of a Thurston Scale. *AMCIS 2009 Proceedings*. Paper 593. <http://aisel.aisnet.org/amcis2009/593>
- Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology*, 90, 1241-1255.
- Davis, R. A., Flett, G. L., & Besser, A. (2002). Validation of a new scale for measuring problematic Internet use: Implications for pre-employment screening. *CyberPsychology & Behavior*, 5, 331-345.
- Dijksterhuis, A., Bos, M. W., Nordgren, L. F., & van Baaren, R. B. (2006). On making the right choice: The deliberation-without-attention effect. *Science*, 311, 1005-1007.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Fointiat, V. (1998). Rationalization in act and problematic behavior justification. *European Journal of Social Psychology*, 28, 471-474.
- Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: Some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior*, 59, 291-309.
- Greenfield, P. M. (2009). Technology and informal education: What is taught, and what is learned. *Science*, 323, 69-71.
- Hembrooke, H., & Gay, G. (2003). The laptop and the lecture: The effects of multitasking in learning environments. *Journal of Computing in Higher Education*, 15, 46-64.
- Hollinger, R. C. (1991). Neutralizing in the workplace: An empirical analysis of property theft and production deviance. *Deviant Behavior*, 12, 169-202.

- Ilies, R., Fultmer, I. S., Spitzmuller, M., & Johnson, M. D. (2009). Personality and citizenship behavior: The mediating role of job satisfaction. *Journal of Applied Psychology*, 94, 945-959.
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, 31, 386-408.
- Jones, D. A. (2009). Getting even with one's supervisor and one's organization: Relationships among types of injustice, desires for revenge, and counterproductive work behaviors. *Journal of Organizational Behavior*, 30, 525-542.
- Kelloway, E. K., Loughlin, C., Barling, J., & Nault, A. (2002). Self-reported counterproductive work behaviors and organizational citizenship behaviors: Separate but related constructs. *International Journal of Selection and Assessment*, 10, 143-151.
- Kwak, A. (2006). The relationships of organizational injustice with employee burnout and counterproductive work behaviors: Equity sensitivity as a moderator. *Dissertation Abstract International*, 67 (2), 1190A. (UMI No. AAT 3204042). Retrieved December 1, 2010, from Dissertations and Theses database.
- Lim, V. K. G. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing and organizational justice. *Journal of Organizational Behavior*, 23, 675-694.
- Lim, V. K. G., & Chen, D. J. Q. (2009). Cyberloafing at the workplace: gain or drain at work? *Behavior and Information Technology*.
- Lim, V. K. G., & Teo, T. S. H. (2005). Prevalence, perceived seriousness, justification and regulation of cyberloafing in Singapore: An exploratory study. *Information and Management*, 42, 1081-1093.
- Lim, V. K. G., & Teo, T. S. H. (2006). Cyberloafing and organizational justice: The moderating role of neutralization technique. In *The Internet and Workplace Transformation*. A. Murugan, T. S. H. Teo & C. Simmers (Eds.). pp. 241-258. M.E. Sharpe Inc. Armonk: New York.
- Lim, V. K. G., Teo, T. S. H., & Loo, G. L. (2002). How do I loaf here? Let me count the ways. *Communications of the ACM*, 45, 66-70.
- Miles, D. E., Borman, W. E., Spector, P. E., & Fox, S. (2002). Building an integrative model of extra role work behaviors: A comparison of counterproductive work behavior with organizational citizenship behavior. *International Journal of Selection and Assessment*, 10, 51-57.
- Mitchell, J., & Dodder, R. A. (1983). Types of neutralization and types of delinquency. *Journal of Youth and Adolescence*, 12, 307-318.
- Moorman, R. H., & Blakely, G. L. (1995). Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. *Journal of Organizational Behavior*, 16, 127-142.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Robinson, S., & Bennett, R. (1995). A typology of deviant workplace behaviors: A multi-dimensional scaling study. *Academy of Management Journal*, 38, 555-572.
- Spector, P. E., & Fox, S. (2002). An emotion-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. *Human Resource Management Review*, 12, 269-292.
- Spector, P. E., & Fox, S. (2010). Theorizing about the deviant citizen: An attributional explanation of the interplay of organizational citizenship and counterproductive work behavior. *Human Resource Management Review*, 20, 132-143.
- SurveilStar.com (2008). *Prevent e-mail and Internet abuses with SurveilStar*. Retrieved 3 August 2010 from <http://www.surveilstar.com/anti-internet-email-abuse-with-monitoring-software.html>
- Sykes, G. M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Journal of Sociology*, 22, 664-670.
- Ugrin, J. C., Pearson, J. M., & Odom, M. D. (2007). Profiling cyber-slackers in the workplace: Demographic, cultural, and workplace factors. *Journal of Internet Commerce*, 6, 75-90.
- Yellowlees, P. M., & Marks, S. (2007). Problematic Internet use or Internet addiction? *Computers in Human Behavior*, 23, 1447-1453.

- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *CyberPsychology and Behavior, 1*, 237-244.
- Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American Behavioral Scientist, 48*, 402-415.